

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An encrypted television signal, comprising:
a plurality of encrypted samples of the television program, the samples being encrypted under a first encryption method;
a duplicate of the plurality of encrypted samples of the television program, the duplicate of the plurality of encrypted samples being encrypted under a second encryption method; and
an unencrypted portion.

C₃₃ 2. (Currently Amended) The encrypted television signal according to claim 1, wherein the television signal is a digital television signal, and wherein the encrypted samples and the duplicate encrypted samples comprise encrypted packets, and the unencrypted portion comprises unencrypted packets.

3. (Currently Amended) The encrypted television signal according to claim 2, wherein the digital television signal complies with an MPEG standard, and wherein the encrypted packets are identified by a first and a second packet identifier, wherein the first packet identifier identifies the packets containing the encrypted samples and wherein the second packet identifier identifies the packets containing the duplicate encrypted samples.

4. (Currently Amended) The encrypted television signal according to claim 2, wherein the digital television signal complies with an MPEG standard, and wherein the unencrypted packets are identified by a first packet identifier, and wherein the encrypted packets containing the first encrypted samples are identified by the first packet identifier, and wherein the packets containing the duplicate encrypted samples are identified by a second packet identifier.

5. (Original) The encrypted television signal according to claim 2, wherein the digital television signal complies with an MPEG standard, and wherein the unencrypted packets

are identified by a first packet identifier, and wherein the encrypted packets containing the first encrypted samples are identified by a second packet identifier, and wherein the encrypted packets containing the duplicate encrypted samples are identified by a third packet identifier.

6. (Currently Amended) ~~An~~ A multiple encrypted television signal ~~program~~, comprising:

a plurality of unencrypted packets; and

33 a plurality of multiple encrypted packets, wherein the multiple encrypted packets comprise first encrypted packets encrypted under a first encryption method and second encrypted packets encrypted under a second encryption method, and wherein both the unencrypted and the multiple encrypted packets are required to decode the television signal ~~program~~.

7. (Currently Amended) The multiple encrypted television signal ~~program~~ according to claim 6, wherein the unencrypted packets and multiple encrypted packets comprise transport stream packets.

8. (Currently Amended) The multiple encrypted television signal ~~program~~ according to claim 6, wherein the digital television signal ~~program~~ complies with an MPEG standard, and wherein the encrypted and unencrypted packets are identified by a packet identifier.

9. (Currently Amended) The multiple encrypted television signal ~~program~~ according to claim 6, wherein the digital television signal ~~program~~ complies with an MPEG standard, and wherein the unencrypted packets and the first encrypted packets are identified by a primary packet identifier, and wherein the second encrypted packets are identified by a secondary packet identifier.

10. (Currently Amended) A method of encrypting content, comprising:

identifying a portion of the content to encrypt according to a selection algorithm where less than 100% of the content is encrypted;

encrypting the identified content portion according to a first encryption method to produce a first encrypted content portion;

encrypting the identified content according to a second encryption method to produce a second encrypted content portion; and

combining an unencrypted content portion along with the first and second encrypted content portions to produce partially ~~dual~~ multiple encrypted content.

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11. (Previously Presented) The method according to claim 10, wherein the content comprises a digital video signal.

12. (Original) The method according to claim 10, further comprising distributing the unencrypted content portion along with the first and second encrypted content portions.

13. (Currently Amended) The method according to claim 10, wherein the content comprises a television signal and the partially multiple ~~—dual—~~ encrypted content comprises a partially ~~dual~~ multiple encrypted television signal.

14. (Currently Amended) The method according to claim 13, further comprising distributing the partially ~~dual~~ multiple encrypted television signal over one of the following: a cable system, a terrestrial broadcast system, satellite system, and as packaged media.

15. (Original) The method according to claim 13, wherein the television signal has an audio portion, a video portion and a system information portion.

16. (Original) The method according to claim 15, wherein the selection algorithm comprises selecting system information for encrypting.

17. (Original) The method according to claim 15, wherein the selection algorithm comprises selecting the audio portion for encrypting.

18. (Original) The method according to claim 15, wherein the selection algorithm comprises selecting the video portion for encrypting.

19. (Original) The method according to claim 10, wherein the content is comprised of multiple programs and wherein the selection algorithm comprises sequentially selecting each program for a period of time for encryption.

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20. (Original) The method according to claim 10, wherein the content is comprised of multiple programs and wherein the selection algorithm comprises selecting fewer than 100% of the programs for a period of time for encryption.

21. (Original) The method according to claim 10, wherein the content is comprised of blocks of data and wherein the selection algorithm comprises selecting N blocks for every M^{th} block of content for encryption, where N is less than M.

22. (Original) The method according to claim 10, wherein the content is comprised of data structures and wherein the selection algorithm comprises selecting a fraction of the data structures for encrypting.

23. (Original) The method according to claim 10, wherein the content is comprised of compressed data, wherein the algorithm comprises selection of data needed for decompressing the content for encrypting.

24. (Previously Presented) The method according to claim 10, wherein the content is comprised of a plurality of packetized elementary streams with the packets containing header information, and wherein the algorithm comprises selecting header information for encrypting.

25. (Original) The method according to claim 24, wherein the header information comprises at least one of packetized elementary stream (PES) header, sequence header, sequence header extension, and group of pictures (GOP) header.

26. (Original) The method according to claim 10, wherein the content is packetized using a first packet identifier (PID), and the PID for packets containing content selected for encryption is mapped to a second PID.

27. (Original) The method according to claim 10, further comprising distributing the unencrypted content portion separately from the first and second encrypted content portions.

28. (Original) An electronic storage medium storing instructions which, when executed on a programmed processor, carry out the method of encrypting content according to claim 10.

29. (Original) An electronic transmission medium carrying encrypted content encrypted by the method according to claim 10.

30. (Currently Amended) A method of encrypting content, comprising:

encrypting content according to a first encryption method and a second encryption method to produce a first encrypted content portion and a second encrypted content portion, respectively; and

combining the first encrypted content portion and the second encrypted content portion with an unencrypted content portion to produce multiple partially encrypted content.

31. (Currently Amended) The method according to claim 30, wherein the multiple partially encrypted content comprises a television signal.

32. (Currently Amended) The method according to claim 31, wherein the multiple partially encrypted television signal is distributed over one of the following: a cable system, a terrestrial broadcast system, satellite system, and as packaged media.

33. (Currently Amended) A method of managing multiple access control systems within an audio visual content distribution system, comprising:

identifying a portion of the content to replicate for each of a plurality of access control systems according to a selection algorithm wherein less than 100% of the content is replicated and wherein the portion that is not identified for replication is an unencrypted portion; and

C33 replicating the identified portion twice to create a first replicated identified portion and a second replicated identified portion.

34. (Currently Amended) The method according to claim 33, further comprising encrypting the first replicated identified portion using a first encryption algorithm.

35. (Currently Amended) The method according to claim 34, further comprising:

~~replicating the identified portion a second time to produce a second replicated portion; and~~

encrypting the second replicated identified portion using a second encryption algorithm.

36. (Currently Amended) The method according to claim 35, further comprising combining the unencrypted identified portion with the encrypted first replicated portion and the encrypted second replicated portion to produce ~~dual~~ multiple partially encrypted content.

37. (Currently Amended) The method according to claim 36, wherein the ~~dual~~ multiple partially encrypted content is distributed over one of the following: a cable system, a terrestrial broadcast system, satellite system, and as packaged media.

38. (Currently Amended) The method according to claim 36, further comprising assigning a separate ~~separated~~ packet identifier (PID) to packets containing each of the unencrypted ~~identified~~ content, the encrypted first replicated identified portion and the encrypted second replicated portion.

39. (Original) The method according to claim 33, wherein the content comprises television content.

C33 40. (Original) A method of encoding a packetized digital television signal, comprising:

encrypting a portion of the packets containing the digital television signal according to a first encryption algorithm;

encrypting the portion of the packets containing the digital television signal according to a second encryption algorithm;

leaving a portion of the packets containing the digital television signal unencrypted;

assigning a primary packet identifier to the unencrypted packets;

assigning a primary packet identifier to the packets encrypted under the first encryption algorithm; and

assigning a secondary packet identifier to the packets encrypted under the second encryption algorithm.

41. (Original) The method according to claim 40, further comprising generating information linking the digital television signal to the primary and secondary packet identifiers.

42. (Original) The method according to claim 41, further comprising transmitting the information linking the digital television signal to the primary and secondary packet identifiers as program specific information (PSI).

43. (Original) The method according to claim 40, further comprising transmitting the unencrypted packets along with the packets encrypted under the first and second encryption algorithms over one of the following: a cable system, a terrestrial broadcast system and satellite system.

44. (Currently Amended) A packet selector and duplicator device, comprising:

input means for receiving a stream of clear packets from a satellite descrambler;

means for selecting a group of packets for ~~dual~~ multiple encryption while leaving a remaining set of clear packets;

means for duplicating the selected packets to provide a first and second set of duplicate packets;

means for assigning a first packet identifier to the first set of duplicate packets and assigning a second packet identifier to the second set of duplicate packets; and

means for multiplexing the first set of duplicate packets and the second set of duplicate packets with the set of clear packets to produce an output stream of packets.

45. (Currently Amended) The apparatus according to claim 44, further comprising a first encrypter that encrypts the first set of duplicate packets ~~and the set of clear packets~~ under a first encryption algorithm.

46. (Original) The apparatus according to claim 44 further comprising a first encrypter that encrypts packets having the first packet identifier under a first encryption algorithm.

47. (Original) The apparatus according to claim 44, further comprising a second encrypter that encrypts the second set of duplicate packets under a second encryption algorithm.

48. (Original) The apparatus according to claim 47, wherein the stream of clear packets further comprises packets containing system information; and further comprising

means for modifying the system information to identify the encryption used to encrypt the second set of duplicate packets.

49. (Original) The apparatus according to claim 44, further comprising a second encrypter that encrypts packets having the second packet identifier under a second encryption algorithm.

50. (Original) The apparatus according to claim 44, further comprising packet remapping means for remapping packet identifiers so that the first set of duplicate packets and the set of clear packets are assigned the same packet identifier.

51. (Currently Amended) The apparatus according to claim 44, wherein the means for selecting a group of packets for ~~data~~ multiple encryption selects the packets by determining that the packet contains an elementary stream header.

52. (Currently Amended) The apparatus according to claim 44, wherein the means for selecting a group of packets for ~~data~~ multiple encryption selects the packets according to a time dependent algorithm.

53. (Currently Amended) The apparatus according to claim 44, wherein the means for selecting a group of packets for ~~data~~ multiple encryption selects the packets by determining that the packet contains audio information.

54. (Currently Amended) The apparatus according to claim 44, wherein the means for selecting a group of packets for ~~data~~ multiple encryption selects the packets by determining that the packet contains video information.

55. (Currently Amended) The apparatus according to claim 44, wherein the means for selecting a group of packets for ~~data~~ multiple encryption selects the packets by determining that the packet contains system information.

56. (Original) A packet identifier remapping apparatus, comprising:
a demodulator that demodulates a stream of modulated packets, the stream of packets comprising clear packets with a first packet identifier, encrypted packets with a second packet identifier and packets with a third packet identifier; and
a remapper that changes the packet identifiers so that the clear packets with the first packet identifier and the encrypted packets with the second packet identifier have the same packet identifier.

C33 57. (Original) The apparatus according to claim 56, wherein the packets with the third packet identifier comprise clear packets and further comprising an encrypter for encrypting the packets having the third packet identifier under a different algorithm than that used to encrypt packets having the second packet identifier.

58. (Original) The apparatus according to claim 56, wherein the packets with the third packet identifier comprise encrypted packets, and wherein the packets with the third packet identifier are encrypted under a different algorithm than that used to encrypt packets having the second packet identifier.

59. (Original) The apparatus according to claim 56, wherein the stream of modulated packets are quadrature amplitude modulated; and wherein the demodulator comprises a quadrature amplitude modulation demodulator.

60. (Original) The apparatus according to claim 56, further comprising a multiplexer that combines the remapped packets with the packets with the third packet identifier to produce an output data stream.

61. (Original) The apparatus according to claim 60, further comprising a quadrature amplitude modulator that modulates the output data stream.

62. (Original) The apparatus according to claim 56, wherein the stream of modulated packets further comprises packets containing system information; and further comprising means for modifying the system information to identify the encryption used to encrypt the packets having the third packet identifier.

63. (Currently Amended) A method carried out at a television provider headend, comprising:

C33 receiving a feed of scrambled television content in the form of a stream of packets;
descrambling the scrambled television content to produce a stream of clear packets;

selecting a packet for ~~dual~~ multiple encryption;
duplicating the packet to provide first and second packets;
re-mapping the first and second packets to first and second packet identifiers;
encrypting the first packet under a first encryption algorithm to produce a first encrypted packet;

encrypting the second packet under a second encryption algorithm to produce a second encrypted packet; and

re-mapping clear packets to the first packet identifier.

64. (Currently Amended) The method according to claim 63, further comprising assembling a partially multiple encrypted stream of packets by combining clear packets with the first encrypted packets and the second encrypted packets.

65. (Currently Amended) The method according to claim 63, wherein the first and second encrypted packets are inserted adjacent one another in the partially encrypted stream of packets.

66. (Currently Amended) The method according to claim 63, wherein the packets are selected for ~~dual~~ multiple encryption based upon contents of the packet.

67. (Currently Amended) The method according to claim 63, wherein the packets are selected for ~~data~~ multiple encryption based upon a timing sequence for sampling the stream of clear packets.

68. (New) The method according to claim 63, wherein the stream of packets has an audio portion, a video portion and a system information portion.

C33 69. (New) The method according to claim 68, wherein packets are selected for multiple encryption by selecting system information for encrypting.

70. (New) The method according to claim 68, wherein packets are selected for multiple encryption by selecting the audio portion for encrypting.

71. (New) The method according to claim 68, wherein packets are selected for multiple encryption by selecting the video portion for encrypting.

72. (New) The method according to claim 63, wherein the stream of packets is comprised of multiple programs and wherein packets are selected for multiple encryption by sequentially selecting each program for a period of time for encryption.

73. (New) The method according to claim 63, wherein the stream of packets is comprised of multiple programs and wherein packets are selected for multiple encryption by selecting fewer than 100% of the programs for a period of time for encryption.

74. (New) The method according to claim 63, wherein the stream of packets is comprised of blocks of data and wherein packets are selected for multiple encryption by selecting N blocks for every M^{th} block of content for encryption, where N is less than M.

75. (New) The method according to claim 63, wherein the stream of packets is comprised of data structures and wherein packets are selected for multiple encryption by selecting a fraction of the data structures for encrypting.

76. (New) The method according to claim 63, wherein the stream of packets is comprised of compressed data, wherein packets are selected for multiple encryption by selection of data needed for decompressing the content for encrypting.

C33 77. (New) The method according to claim 63, wherein the stream of packets is comprised of a plurality of packetized elementary streams with the packets containing header information, and wherein packets are selected for multiple encryption by selecting header information for encrypting.

78. (New) The method according to claim 77, wherein the header information comprises at least one of packetized elementary stream (PES) header, sequence header, sequence header extension, and group of pictures (GOP) header.

79. (New) The method according to claim 64, further comprising distributing the assembled partially multiple encrypted stream of packets .

80. (New) A method of selecting data for multiple carriage partial encryption, comprising:

examining unencrypted packets of data in a digital audio/video data stream to identify a packet type; and

selecting packets of the identified packet type for multiple partial encryption, wherein the amount of data to be encrypted is sufficient to render a portion of an entire frame unviewable.

81. (New) The method according to claim 80, wherein the packet type comprises all video packets of the frame.

82. (New) The method according to claim 80, wherein the packet type comprises system information.

83. (New) The method according to claim 80, wherein the packet type comprises program specific information.

84. (New) The method according to claim 80, wherein the packet type comprises all packets representing a duration of time.

85. (New) The method according to claim 80, wherein the packet type comprises a number of packets (N) after a start of encryption event (M).

86. (New) The method according to claim 85, wherein the start of encryption event (M) repeats and the number of packets (N) are selected for encryption after each start of encryption event (M).

87. (New) The method according to claim 86, wherein the start of encryption event (M) and the number of packets (N) are pseudo-random numbers.

88. (New) The method according to claim 86, wherein the start of encryption event (M) and the number of packets (N) are one of random, pseudo-random, and semi-random numbers.

89. (New) The method according to claim 80, wherein the packet type comprises intra-coded frames (I frames).

90. (New) The method according to claim 80, wherein the packet type comprises predictive-coded (P frames).

91. (New) The method according to claim 80, wherein the packet type comprises Bi-directional-coded (B frames).

92. (New) The method according to claim 80, wherein the packet type comprises DC frames.

93. (New) The method according to claim 80, wherein the packet type comprises start of frame transport stream packets containing PES (packetized elementary stream) headers.

94. (New) The method according to claim 80, wherein the packet type comprises a group of pictures header.

95. (New) The method according to claim 80, wherein the packet type comprises a video sequence header.

96. (New) The method according to claim 80, wherein the packet type further comprises certain audio packets sufficient to diminish a measure of audio quality.

97. (New) The method according to claim 96, wherein the certain audio packets comprise all audio packets.

98. (New) A multiple encrypted packetized digital television signal, comprising:
a first plurality of unencrypted packets;
a second plurality of packets encrypted under a first encryption method;
a third plurality of packets encrypted under a second encryption method; and
wherein the packets encrypted under the first and second encryption methods are duplicate packets, and wherein the packets are selected for encryption using a selection criterion.

99. (New) The multiple encrypted packetized digital television signal according to claim 98, wherein the digital television signal comprises an MPEG compliant digital television signal.

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100. (New) The multiple encrypted packetized digital television signal according to claim 99, wherein the first plurality of unencrypted packets and the second plurality of encrypted packets are identified by a first packet identifier.

101. (New) The multiple encrypted packetized digital television signal according to claim 100, wherein the second plurality of encrypted packets are identified by a second packet identifier.
